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RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
GROUP 1621
PATENT APPLICATION

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[Signature]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q58538

Hiroshi UCHIDA, et al.

Appln. No.: 09/719,985

Group Art Unit: 1621

Confirmation No.: 5170

Examiner: Paul A. Zucker

Filed: December 19, 2000

For: PROCESS FOR PRODUCING ESTERS

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RESPONSE UNDER 37 C.F.R. § 1.116

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action dated April 4, 2003, a response to which is due July 7, 2003 (July 4 being a Federal Holiday, and July 5, 2003 falling on a Saturday).

Claims 1-3, 5-7, 9-11 and 13-30 are all the claims pending in the application.

Claims 1-3, 5-7, 9-11 and 13-30 are rejected under 35 U.S.C. § 102(b) as being anticipated by Atkins. Claims 1-3, 5-7, 9-11 and 13-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Atkins in view of Froom.

Applicants respectfully traverse as follows.

Applicants clarified in the previous response that it is generally known to those skilled in the art that butenes are produced in the synthesis of an ester from ethylene and acetic acid in the

vapor phase. As evidenced by the data in Example 1 of the present application, and further evidenced by Froom, butenes are produced in the process for the production of ethyl acetate from ethylene and acetic acid in the presence of a heteropolyacid catalyst. For the Examiner's convenience, Applicants enclose herewith a copy of WO 02/12162 ("Froom").

In WO 02/12162, it is recognized that butenes are produced in the process for the production of ethyl acetate from ethylene and acetic acid in the presence of a heteropolyacid catalyst at page 9, lines 19--27, as follows:

"The apparatus comprises a distillation column 10, which is fed with an ethyl acetate product stream via line 12. This ethyl acetate product stream is produced by the reaction between ethylene and acetic acid in the presence of a heteropolyacid catalyst. The apparatus further comprises a hydrogenator 14, a knock-out pot or separation column 16, a settling unit (e.g., a decanter) 18 and a second distillation column 20. In operation, a product stream comprising ethyl acetate, water, ethanol, methyl ethyl ketone, acetaldehyde and volatile components such as hydrogen, diethyl ether, butanes, butenes, methyl pentanes and methyl pentenes is introduced to the distillation column 10 via line 12."

Atkins and Froom use the same process with respect to the ester synthesis at issue. Accordingly, it is understood by those of skill in the art that the process of Atkins results in the production of butenes.

It is important for the viability and activity of the catalyst to regulate the concentration of butenes. This cannot be evaluated from the reaction for several hours during the initial stage of the reaction. Therefore, it is important that the concentrations of the substances condensed in the

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gas recycling system are regularly controlled. Further, the initial reaction stage cannot be operated in a regular and practical manner for several thousand hours.

The present invention is completely different from the processes of Atkins and Froom in the point that butenes are positively removed from the recycling process. This is described in further detail in the present specification, page 7, lines 9-24. Neither Atkins nor Froom discloses or suggests this step. Therefore, it is respectfully requested that the rejections be reconsidered and withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: July 7, 2003